

Claims

1. A process for the production of an alcohol by the hydrogenation of an aliphatic aldehyde over a catalyst comprising a copper compound, a zinc compound and optionally a catalyst support and/or a promoter compound, comprising the step of treating said catalyst with an organic sulphur compound.
2. A process as claimed in claim 1, wherein said aliphatic aldehyde is present in a feed stream containing an olefin.
3. A process as claimed in claim 1 or claim 2, wherein said feed stream is the product of a hydroformylation reaction.
4. A process as claimed in any of the preceding claims, wherein said sulphur compound comprises thiophene.
5. A process as claimed in any of the preceding claims wherein said sulphur-containing compound is present in a feed stream containing said aldehyde at a concentration of from 5 ppm to 150 ppm by weight of sulphur based upon the total mass of feed.
6. A process as claimed in any of the preceding claims, comprising the steps of :
 - (a) providing a bed of said catalyst within a reactor and reducing said catalyst in a hydrogen-containing gas stream;
 - (b) feeding to the bed of said reduced catalyst a gaseous feed stream comprising said aldehyde and a sulphur compound and hydrogen to said catalyst for a period of time sufficient to provide from 0.2 to 10 kg of S per tonne of catalyst, the concentration of sulphur compound in said feed stream being less than 150 ppm;
 - (c) subsequently feeding to said catalyst bed a feed stream containing no sulphur compound.
7. A process for the production of an alcohol, comprising the steps of:
 - (a) reacting an olefin feed with hydrogen and carbon monoxide in a hydroformylation reactor in the presence of a suitable hydroformylation catalyst to form a hydroformylation product stream comprising an aldehyde and unreacted olefin,
 - (b) optionally treating said hydroformylation product stream to separate the catalyst from the remainder of the hydroformylation product stream,
 - (c) vaporising said hydroformylation product stream and feeding the vapour together with a stream of a hydrogen-containing gas to a hydrogenation reactor

containing a bed of a solid hydrogenation catalyst comprising a copper compound and a zinc compound, to form a hydrogenation product stream comprising at least an alcohol and unreacted olefin,

- (d) separating said hydrogenation product stream into at least an alcohols stream and a stream containing said unreacted olefin,

characterised in that the hydrogenation catalyst is treated with an organic sulphur compound before or during step (c).